

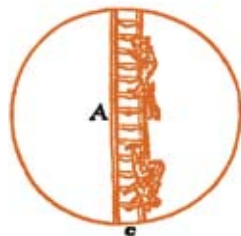


What is this strange sphere that Kircher places at the heart of the volcano?



Underground spring. Kircher believed there was a vast network of waterways and springs beneath the Earth's surface. Image is photographed from Kircher, (*MS [Mundus subterraneus]*, Bk. V, 291).

The Earth Is an Alembic
an 'imaginal' reading of the images in
Athanasius Kircher's
d'ONDER-AARDSE
W E E R E L D
or Mundus subterraneus
[Atlas of the Underworld]



Athanasius Kircher (1662–1680), *Mundus subterraneus*
[Atlas of the Underworld], XII libros digestus,
Amsterdam, Janssonio-Waesbergiana, 1678.

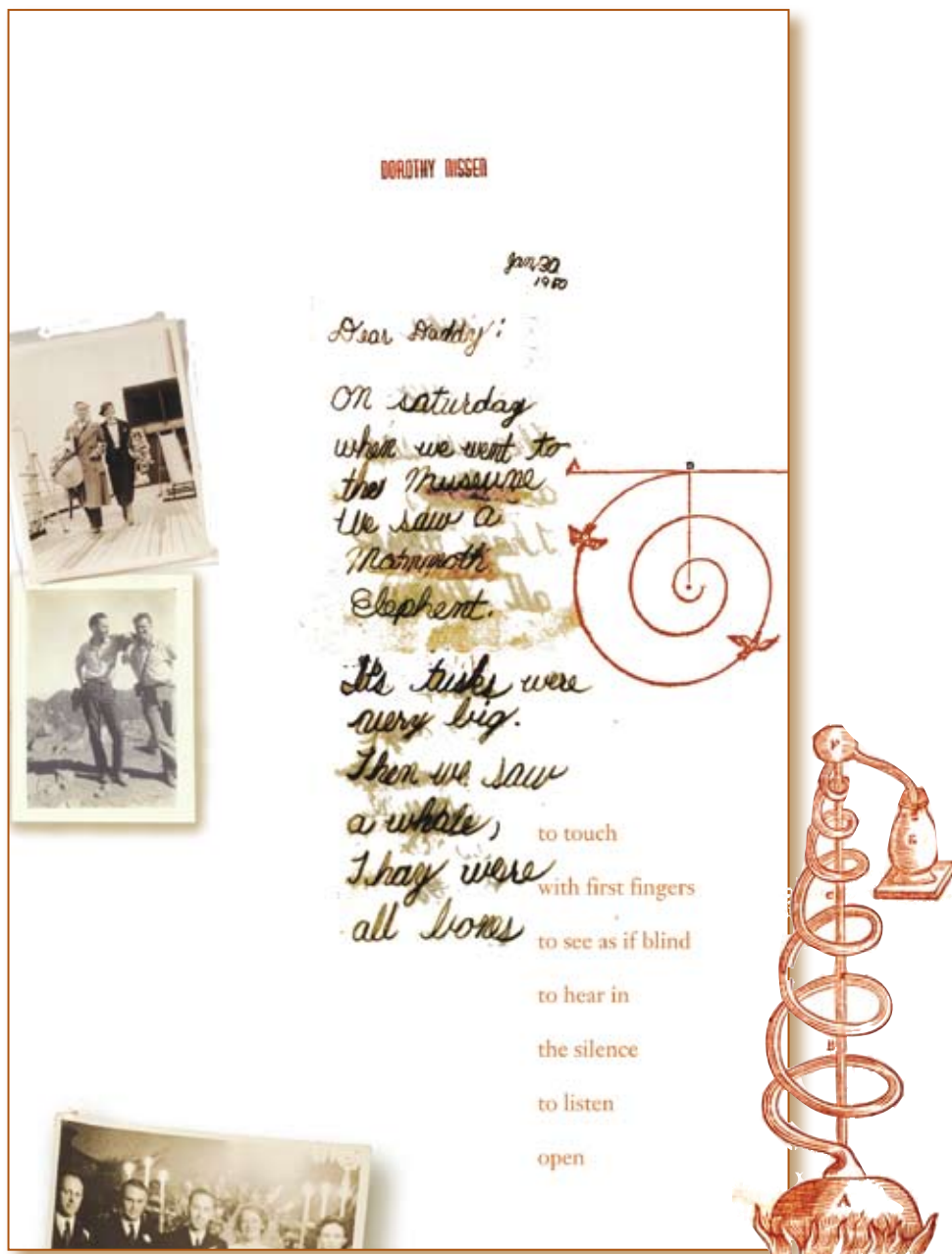
DOROTHY NISSEN

For Kircher...cosmic bonding is the most basic physical expression of the idea that God is Love; even the rocks and the planets love one another [As is true for Giordano Bruno] ... the entire universe [is] infused with a great ...world-soul that extend[s] to infinity, an emanation of the infinite power of divinity. (Rowland 2000, 74)

Athanasius Kircher's *Mundus subterraneus* of 1678 is a book that belonged to my father. My father, a sensible man, was interested in the book as a natural history and regarded its many alchemical images as a detriment to its credibility as a scientific document. I have lived with this book since I was a child, and in many ways it became a vessel for the redemption of my relationship with my father.



DOROTHY NISSEN, MFA, is a painter and book artist who also works as a graphic designer. The series of prints shown above right, *Caves, Awe, and My Mother and Father*, combines photographs of her ancestral family — many from the late 1800s — with images from a book of her father's, Athanasius Kircher's 1678 *Subterranean Atlas*, in a personal attempt at "cosmic bonding." Correspondence: dorothynissen@comcast.net or 1012 Creston Rd., Berkeley, CA 94708. See www.studiodorwiz.com



To touch with first fingers; a seven-year-old's letter to her distant father. (Was this an attempt to bond with him through a shared feeling of awe toward nature?) The spiral path of the bird's flight is from the first book of the twelve which is entitled *Middelpunt's Beschryving* [Describing the Midpoint]. To me this referred to the act of locating the center of the Earth, the *Axis Mundi*. My father's interest in maps and old books may have been driven by the death of his immigrant father when he was just two. He cannot have known him, and surely he spent many hours imagining and locating his own place of origin. For me the spiral vessel shown on the right is a *calcinatio* image having to do with linking these original emotions (of longing) with their archetypal source. (In fact this image is from Book IV, *Beschryvende de Wateren*, and seems to be an apparatus for extracting salt from sea water.) (MS, Bk. IV, 200).

A self-avowed mystic and scientist, Kircher took his chair in Mathematics at the Jesuit Order's Collegio Romano, which (with some synchronistic prevision) had been built on top of the ruins of an ancient temple of Isis. It was 1635, just two years after Galileo had been charged with "vehement suspicion of heresy" for espousing the Copernican view that the Earth circles the Sun, and it was just weeks after Galileo's sentence had finally been commuted to house arrest (Rowland 2000, 1).

Kircher's 1656 *Itinerarium exstaticum* is a fictional account of a Dantesque journey to the outer reaches of a Sun-centered cosmos. Under the pseudonym Theodidactus (*divinely taught*), Kircher is guided by an angel named Cosmiel (*honeeyed thing*), whose words are said to be more acerbic than his name implies. Ever honing his skill at poetic subterfuge, Kircher managed to avoid more concrete allusion to his agreement with Copernicus. When expedience demanded, he called upon his Jesuit devotion and obedience to obfuscate contradictions in the view in which he was trained — that is, Tycho Brahe's Earth-centered universe, in which the Sun, orbited by the planets other than Earth, orbits the Earth and fixed stars. At other times he illustrated Newton's ideas on gravity and shared Kepler's view of a central fire in the Earth. Kircher frequently declares his Christian devotion, yet he presents many conflicting ideas, including a complex theory of correspondences (see page 30). A person of prodigious interests and learning, Kircher pretended more knowledge — in philology, for example — than he actually possessed. His translation of the Egyptian hieroglyphs on the Pamphili Obelisk that had been exhumed from the sanctuary of Isis beneath the Collegio — as well as his insistence on the existence of secret links between pagan and Christian beliefs — were declared by no less than Leibniz to have been simply made up. It must be said in Kircher's defense though, that his sources in the case of the obelisk were themselves simulacra, the key one having been copied from a prior manuscript by someone with no knowledge of the language

Kircher was not only a showman, but a formidable designer and packager of books. He published more than forty handsome tomes, all the while producing a staggering array of baroque spectacles that entailed magic lanterns, a working clock in the form of a mechanically-heliotropic sunflower, and other illusionistic devices (Findlen 2004, 6).



BELOW: Representation from exhumed bones of underground giant compared to historically known giants..





Frontispiece of the 1678 Dutch edition. Curiously, the first row of horned animals on the goddess's skirt are antlered deer; the other two rows are the bulls one associates with more Mediterranean cultures.

a radiant figure who could be Apollo, but whose rays may be the *panspermian* energy Kircher believed emanated from the Sun itself. Kircher took the idea of *panspermia*, the universal seed, from Giordano Bruno, who had been burned at the stake by the Inquisition in 1600, not for his Copernican astronomy but for "obstinance." Kircher wisely concealed some of his favorite sources, however, especially if they were on the papal Index (Rowland 2004, 196). To the left of the female scribe, a winged puti holds up a portrait of Kircher as if to suggest that the scribe is mediating or channeling Kircher's energy. The presence of Hermes together with Apollo in a chamber ruled by Artemis, the goddess of the Moon, suggests that somehow the empirical method — proposed by Aristotle and promoted in Kircher's Jesuit education (as long as it complied with the idea of an Earth-centered universe) — will be conjoined in this work with another form of knowledge whose source, alchemical or not, is the hermetic arts. Through an archway in the background, a cave is revealed in which stone workers wielding pick axes are working to uncover the messages etched into the walls of the cave. Does this reflect the alchemical belief that the elements in stones come from meteorites that are actually fallen gods? The elements in alchemy carry the attributes of these gods; copper carries and expresses desire, and so on (Coudert 1980). Behind the statue of Artemis is an opening to a second room, a laboratory

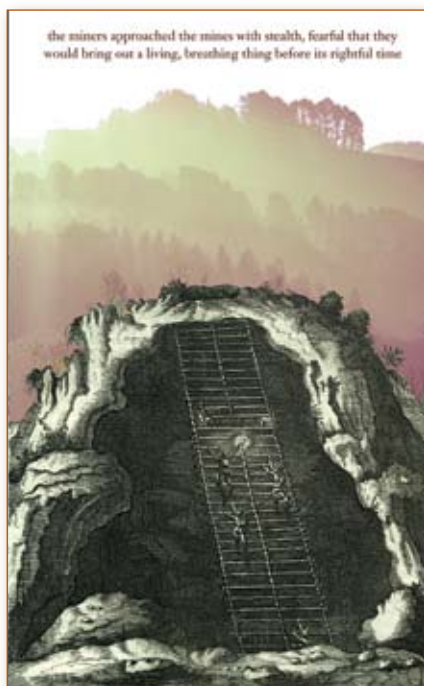
The Frontispiece d'Onder-Aardse Weereld anticipates the book's contents

D'Onder-Aardse Weereld in Twaalf Boeken Natuurkundig Verhandeld [The Underground World. A Physics Treatise in Twelve Books] is the 1678 posthumous Dutch translation of *Mundus subterraneus*, first published in Latin in 1665. In the frontispiece of this second edition (shown on the left), a statue of the many-breasted Artemis, similar to the one at Ephesus except for the reindeer adorning the first row of her skirt, presides over a scene in which a woman, perhaps Kircher's muse or alter-ego, is attended by three figures: Hermes holds a wand-like caduceus over her head, and is himself assisted by

in which a robed man, perhaps a magus, conducts experiments at the hearth of a fireplace. He is surrounded by various alembics and vessels and books.

The handwriting in stones in Kircher's Mundus subterraneus

The first book of *Mundus subterraneus* is not a mathematical locating of the the Earth's center, as I had imagined, but rather an attempt at a mathematical proof of Tycho Brahe's theory that the Sun orbits the Earth; the second book describes the gravitational relationship of the Sun, Moon, and tides; the third book explores the nature of water and the oceans; the fourth, the power of underground fire; the fifth, underground springs, fountains, and seas; the sixth, minerals that come from water; and the seventh, mining and metallurgy. The subject of the eighth book, *Handelende van de Steenige Stof des Aardryks*, is the behavior of the "stoney stuff" in the Earth, in other words, paleontology. It is in this book that Kircher seems most reckless (or divinely-driven) in practicing his own art of combining observation with confabulation. Deeply embedded in a baroque worldview in which notions of divinely-wrought spontaneous generation and other aspects of evolution were in a lively state of revision in the basement laboratories of ecclesiastical centers of learning, Kircher appears to believe that fossils not only record geological history, but also prevision mythical and human history as well. He appears to imagine evolution as a process that is fueled by human and divine imagination, mimesis and experiment. Late in the book, in a contrasting feeling tone, he reveals an expansively comic view of alchemical apparatus and process (see below right from Bk. XII).



the miners approached the mines with stealth, fearful that they would bring out a living, breathing thing before its rightful time

LEFT: Placing the mineshaft beneath the trails of a Tilden hillside where I often walk, I thought of the words of Walter Clive who is quoted in Allison Coudert's *The Philosopher's Stone*: "The miners approached the mines with stealth, fearful that they would bring out a living, breathing thing before its rightful time." (1980, 200) (MS, Bk. X, "Van de Geleentheid der Mynen" [*The Location and Development of Mines*])

RIGHT: An anima-ted view of alchemical process. (MS, Bk. XII, 346)



Kircher's view of alchemy

Kircher's expressed view of alchemy is much more antagonistic than that of his contemporary Sir Isaac Newton (who practiced alchemy in his spare time between writing treatises on religion, and — what were of less importance to him personally — treatises on the laws of mechanical physics).

Kircher is known for mocking alchemy and reviling, while at the same time borrowing from, Paracelsus. Rowland does not speak of Kircher as an alchemist, but in a book published before the flurry of interest in Kircher in the 1990s, Jocelyn Godwin describes as an alchemist. Godwin classifies alchemists into four types:

(1) those who believe transmutation impossible but conduct chemical experiments for other purposes; (2) the metallurgists; (3) sellers of imitation gold and silver; (4) those who for personal gain fraudulently pretend to achieve transformation. He himself was of the first category; clearly he was fascinated by chemistry.... He wrestled inconclusively with the two standard divisions of substance: the classical quaternary of earth, water, air and fire, and the Paracelsian ternary of salt, sulphur and mercury, wanting to accept them both but unable to make the mental bifurcation necessary to accept two different levels or modes of being (Godwin 1979, 85).

Why does Kircher seem so alchemically-minded then, when he attacked the alchemists?

A split is often seen between the Platonic worldview that is for some the jumping off point for the modern form of Western thought emerging in the Enlightenment period, and Presocratic thought with its various pre-alchemical ideas: initially of a single originary *material*

Kircher witnessed the eruption of Mount Aetna in 1637. He wrote that it was the profound emotional impact of this experience that caused him to shift his focus from philology and mathematics to the empirical sciences. Surely the idea of a central subterranean fire — which he took from Kepler — was also a core inspiration for this book — along with his notion of a vast network of underground waterways nourishing the planet. Soon after he wrote Turris Babel [Tower of Babel]. Could this choice of topics be a response to the conflicting voices that emerged in writing Mundus subterraneus? In either case, it seems that his conversion to empirical observation, which had been occasioned by viewing the eruption of this volcano, was not permanent!



element — Thales's water, Heraclitus's fire (as well as flux), and Anaximenes's air; at roughly the same time, the more *idealist* notion of an originary substance — Anaximander's *apeiron* and Parmenides's *nōos*; and finally, the idea of four elements introduced by Empedocles. This *split* must have been experienced as a kind of continuum in the seventeenth century worldview. Even the



conceptual organization of Kircher's *Atlas of the Underworld* is steeped in alchemical ideas.

The more striking dichotomy in the seventeenth century worldview, however, is revealed in the tension between belief in church doctrine and an increasing fascination with science. According to Thomas van Leeuwen, "in the manner so typical of ecclesiastic scholarship...

Kircher existed in a kind of dream state, a succession of hallucinations, where hallucination and objectivity are forced to go hand-in-hand" (2004). *Hallucination?* ... Perhaps it was the idea of the universal seed, *panspermia*, that Rowland traces to Bruno and to Aristotle's *entelechia*, that enabled him to navigate between these contradictory realms with unflagging humor (2004, 196-8).



TOP LEFT: In the images shown on the left Kircher seems to associate mummification with the evolution of the chrysalis. Perhaps these images reflect his belief in *palingenesis*, the transmigration of souls, since the caption shown at the right seems to say "all things can be transformed (become other) in stones."

*Alle dingen
kommen in
steen veran-
deren.*

LEFT: *Human faces imagined in the expression of stones.* Kircher shows how fossils record and prevision human history. According to Stephen Jay Gould, Kircher did believe in certain instances of spontaneous generation (Gould 2004, 210).

BELOW LEFT: The last image below seemed to me to say that the alphabet and geometric forms are divine signs written in stone and given to us by the angels (MS, Bk. VIII, *Van de Steenen* [On Stones], 21). At the same time *Mundus subterraneus* has many illustrations of fossils that were formed naturally.



The Earth is an alembic

Kircher's *Atlas of the Underworld* seems to imagine the Earth itself as an alembic. This idea, along with his shift in focus to the natural sciences, *could* well have seized him when he witnessed the eruption of Mount Ætna in 1637. The fact that the Earth's creation and existence are miraculously improbable *even from the most scientific perspective*, and that its survival requires our attentive participation, is an idea that is crucial in our own time of ecological crisis.

When I first tried to parse the meaning of this book, it seemed to trace an alchemical process, that is, an attempt to reconcile certain opposites within the author. Although I cannot read the Dutch text and can only parse the Latin captions with a reckless and playful use of guess work, I feel a deep connection with the view expressed in at least the wholeness of this book that the geological Earth *is* a wondrous alembic as it undergoes changes in temperature and pressures within. In these pages I wanted to make a connection between the awe, as well as a kind of atavistic darkness, that I felt as a child in relation to my parents and

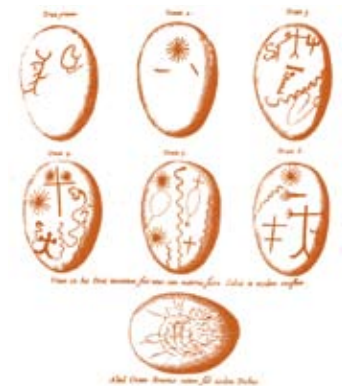


a feeling that our lineage as humans reaches back to the earliest geological life in our planet eons before human existence.

Conclusion: My Father, Kircher and Me, ... and Who?

Last night, perhaps in response to the need I have been feeling to make a coherent ending and therefore narrative for this article, I dreamt that the nipple of my left breast was bleeding during a meeting I had with Kircher's colleague Gaspar Schott. Was I slighting some feminine aspect of myself by leaving no room for a feeling conclusion to this article, by not saying just *how* this book somehow redeemed my father for me? Schott, whom I am meeting with in the dream, was Kircher's assistant, apologist, in my mind, his lover, and probably the person on whom the angel Cosmiel, Kircher's guide in *Ecstatic Journey*, was based (Rowland 2000, 21-22). He was an excellent experimentalist upon whom Kircher relied for the working out of his ideas, and was no less a person of great acumen, since it is he who urged Kircher to write something that would reveal his Copernican view of astronomy. That something turned out to be the *Itinerarium exstaticum coeleste* [*Ecstatic Celestial Journey*], the fictional account discussed on page 21, which was based on a visionary dream Kircher actually had — as he tells the story — of a journey to the outer reaches of a universe *in motion*. It was only some years later in Schott's annotated re-publication of this book, newly entitled *Ecstatic Journey*, that mention was made of Kircher's intellectual indebtedness to Giordano Bruno. Moreover this fictional *Itinerarium exstaticum* was Kircher's only foray into the endangered area of Copernican astronomy.

With his extroverted focus on circumventing censure (though *Ecstatic Journey* was itself soon added to the Index), Kircher



TOP: *Solaris*. A map of the solar fires Kircher was able to observe through his telescope.

CENTER: *The Moon*.

BOTTOM: *The creation in seven days*.

Perhaps this is an allusion to *panspermia*, the universal seed that emanates from the Sun and inseminates the earthly world.



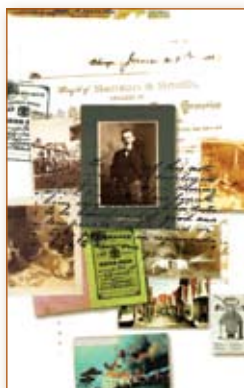


Page for my Mother. I loved Kircher's image of the Virgin and Child found "expressed" in a geode-like stone. Kircher apparently agrees with the Gnostic view that at least one of the Marys went to live in a cave in Southern France. I am not sure it was the Mother of God, though it is She who "kept these things and pondered them in her heart," (as one might do in a cave). In retrospect I think that my idea in this print was to show that one's own/my own body comes from a chthonic source.



My Cousins in Tonder in Southern Denmark. When I met my cousins during the summer before I entered high school, one was a Lutheran minister and the others were farmers. Their lives were close to the Earth, and their animals were kept in a shed near the kitchen for warmth. It is for this reason that I included Kircher's imaginary fossil of a human hand that I tinted green. Of the central image Kircher seemed to me to say that the alphabet and geometric forms are divine signs that come to us from the angels and are written in stones.

BELOW FROM LEFT: *My Father's Father* with his passport from 1875 and Kircher's *Fornax Spagyrica* (actually an ecclesiastic still!). *My Mother's Mother* who read constantly (Austin and Dickens), according to my mother, and forgot to serve the recipes she cooked from the Sear's mail order catalog. *My Father's Mother Augusta* who left home and came west by herself on a train from Cincinnati when she was nineteen. Her photograph is layered with the receipt for the Steinway grand piano she managed to import from Hamburg in 1901 and Kircher's image of a bird with a serpent's tail which to me represents Mozart's Papageno — my father played the flute.





Theory of correspondences. For Kircher, the structure of the microcosm of the body reflects that of the macrocosm of the heavens. This chart shows the sympathetic relationship between various medicinal plants and herbs, parts of the body, the astrological signs, and the heavens.

discover in his reading of old geographies the impact of geography and climate on demographic movements, and on economic conditions such as quality of life and education. It was from him that I learned of a kind of “contextualism,” the fact that information is always skewed by the economic perspective and interests of the informer. He loved to point out distortions in medieval maps, and it was this view actually coupled with my mother’s interest in grammatical syntax that seeded my own life-long preference for the *history* of ideas, that is for looking at an idea in its historical context, to looking at it in some discrete way independent of the rich and meaningful convolutions, reversals, and vagaries of its history.

This predilection for considering the context and the psychological determinants of an idea, and an openness to a semiotic perspective which would see the representation of those ideas as somehow encoding their psychological and social determinants, is for me analogous to Kircher’s idea that in every expression of nature there is an encoding of mystic knowledge. Rowland speaks of the appearance (when Kircher was writing about the Pamphili Obelisk) of the Pythagorean figure of Harpocrates, the “infant god who raises his finger to his lips as an injunction to silence.” For Pythagoras, as well as for Kircher, this figure signaled the idea that the surface meaning of something can at once conceal *and* nurture the hidden knowledge beneath (Rowland 2000, 15).

instead generally defended Tycho Brahe’s compromise cosmic structure. Of equal or more offense to the church than the idea of a Sun-centered universe, however, was the idea of an *infinite* universe that was in *constant motion*. Much of the *Atlas of the Underworld* is actually based on this notion of a universe in which everything including the waters and fire beneath Earth’s surface is roiling in motion. That universe is also one in which mutation and change are a result of a constant reconfiguration of the four elements.

My father, a successful businessman who had to forego college to go to work at sixteen to support his widowed mother, was not the strictly sensate person I implied he was in the first paragraph of this article. Even though he was a Republican and took me to meet Nixon in the Senate when I was seven, he seems actually to have been a closet Marxist, unbeknownst to himself, in that his favorite diversion was to

Thus it was in the perusal and study of this book that my relationship with my father was transformed. In the encounter with a book of my father's that he understood in a literal way as an incomplete but none-the-less objective record of natural science, while I understood it as a book with a subterranean undercurrent of mystic and alchemical knowledge, I felt that we could live in the same universe. Second, in musing over the personified image of the theory of correspondences that appears near the end of the *Atlas* (see opposite page), I discovered in the law of analogy and correspondences an antidote to what I felt was his literalism. The idea of correspondences, or analogy, seems to be not only the root source of metaphor, but key to awakening our collective potential as humans to *imagine* in a much needed more pluralistic way. This capacity to imagine seems for Kircher and Bruno to be embedded in the very structure of the cosmos. In time could my father have shared Kircher's idea that there a generative encoding of some originary knowledge in every level of nature's self expression?

BIBLIOGRAPHY

- Coudert, Allison. 1980. *The Philosopher's Stone*. London: Wildwood House.
- Findlen, Paula. ed., 2004. *Athanasius Kircher: The Last Man Who Knew Everything*. New York: Routledge.
- Godwin, Jocelyn. 1979. *Athanasius Kircher (Art & Imagination)*, London: Thames & Hudson, Ltd.
- Gould, Stephen Jay. 2004. "Father Athanasius on the Isthmus of the Middle State: Understanding Kircher's Paleontology," *Athanasius Kircher: The Last Man Who Knew Everything*. Ed. Paula Findlen. New York: Routledge.
- Kircher, Athanasius 1678. *d'Onderaardse Erde, or Mundus subterraneus [Atlas of the Underworld]*, 2nd edition, Amsterdam: Joannem Janssonium à Waesberge & Filios.
- Rowland, Ingrid. 2000. *The Ecstatic Journey: Athanasius Kircher in Baroque Rome*. Chicago: University of Chicago Library.
- , 2004. "Athanasius Kircher, Giordano Bruno, and the *Panspermia* of the Infinite Universe." *Athanasius Kircher: The Last Man Who Knew Everything*. Ed. Paula Findlen. New York: Routledge.
- Van Leeuwen, Thomas A.P. Spring 2004. *The Underground World of Semi-Consciousness, in "The Magic Stove,"* a compendium of articles accompanying the Projective Theory seminar series with Thomas A.P. van Leeuwen. Netherlands: The Berlage Institute. www.berlage-institute.nl/03_postgraduate/Magic%20Stove/ms_art2.html.
- Wilson, David, curator. 2000. *The World is Bound with Secret Knots: The Life and Work of Athanasius Kircher, 1602–1680*. Los Angeles, The Museum of Jurassic Technology. Ongoing exhibit.

ABSTRACT

DOROTHY NISSEN, "The Earth Is an Alembic; an 'imaginal' reading of the images in Athanasius Kircher's *Mundus subterraneus [Atlas of the Underworld]*." The article describes a transformative personal experience in growing up with a seventeenth century book that belonged to her father. [Athanasius Kircher (1662–1680), *Mundus subterraneus (Atlas of the Underworld), XII libros digestus*, Amsterdam, Janssonio-Waesbergiana, 1678.] JUNG JOURNAL: CULTURE & PSYCHE, 1:4, 18–31.

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alchemy, "as above, so below," Athanasius Kircher, *Atlas of the Underworld*, awe, caves, *Mundus subterraneus*, *palingenesis*, seventeenth century worldview, spontaneous generation, theory of correspondences.

